

REMARKS

Summary of the Office Action

Claim 1 is objected to because of the following informalities: “phtoresist” in line 28 should be “photoresist.” Further, claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Further, claims 1, 15 and 24 are rejected under 35 U.S.C. §103(a) as being unpatentable over Deane et al., U.S. Patent No. 6,686,229 in view of official notice/admitted prior art, in view of Chae et al., US 2002/0135710, and further in view of Okazaki et al., U.S. Patent No. 5,127, 330. The Examiner’s objection and rejections are respectfully traversed.

Summary of the Response to the Office Action

Claims 1 and 24 have been amended to more particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Accordingly, claims 1, 15 and 24 are presently under consideration in the present application.

Objection to the Claims

In claim 1, the term “phtoresist” in line 28 has been amended to “photoresist.” Accordingly, Applicant respectfully requests that the objection of claim 1 be withdrawn.

Claim Rejections to 35 USC § 112

In claim 24, the phrase “sequentially forming a gate insulating layer, a semiconductor layer, a high-concentrated N+ layer and a conductive layer over the substrate including the gate line” has been amended as “sequentially forming a gate insulating layer, a semiconductor layer and a high-concentrated N+ layer over the substrate including the gate line.” Accordingly, it is believed that the claim rejection under 35 U.S.C. 112 has been overcome.

Rejection Under 35 USC § 103(a)

Applicants respectfully traverse the rejection of claims 1, 15 and 24 as being based on references that neither describe nor suggest the novel combination of features now recited in independent claims 1 and 24, as amended. For example, independent claim 1 now recites the features, “forming a metal layer on the substrate; forming a gate photoresist pattern on the metal layer by a first roller printing process; forming an active photoresist pattern on the high-concentrated N+ layer by a second roller printing process; sequentially etching the high-concentrated N+ layer and the semiconductor layer using the active photoresist pattern as a mask to form a semiconductor layer pattern and a high-concentrated N+ layer pattern, wherein an active region comprises the semiconductor layer pattern and the high-concentrated N+ layer pattern; applying a mask over the photoresist layer, and performing a lithography process, to form a photoresist layer pattern; forming a contact hole photoresist pattern over the passivation layer by a third roller printing process; forming a pixel electrode photoresist pattern over the pixel electrode layer by a fourth roller printing process; wherein each of the first to fourth roller

printing processes comprises, providing a cliché having an intaglio pattern of a groove form; depositing a predetermining amount of photoresist on the cliché; rotating a roller on the cliché to transfer the photoresist contained in the cliché onto a surface the roller; and rotating the roller on the substrate to re-transfer the photoresist contained in the roller onto the substrate thereby forming a photoresist pattern on the substrate.” In particular, the claimed invention is featured in that “forming a gate photoresist pattern on the metal layer by a first roller printing process; forming an active photoresist pattern on the high-concentrated N+ layer by a second roller printing process; sequentially etching the high-concentrated N+ layer and the semiconductor layer using the active photoresist pattern as a mask to form a semiconductor layer pattern and a high-concentrated N+ layer pattern, wherein an active region comprises the semiconductor layer pattern and the high-concentrated N+ layer pattern; applying a mask over the photoresist layer, and performing a lithography process, to form a photoresist layer pattern; forming a contact hole photoresist pattern over the passivation layer by a third roller printing process; forming a pixel electrode photoresist pattern over the pixel electrode layer by a fourth roller printing process” as recited in amended claim 1.

In contrast to the claimed invention, Deane et al. in view of Chae et al., and further in view of Okazaki et al. fail to teach or suggest “forming a gate photoresist pattern on the metal layer by a first roller printing process; forming an active photoresist pattern on the high-concentrated N+ layer by a second roller printing process; sequentially etching the high-concentrated N+ layer and the semiconductor layer using the active photoresist pattern as a mask to form a semiconductor layer pattern and a high-concentrated N+ layer pattern, wherein an active region comprises the semiconductor layer pattern and the high-concentrated N+ layer

pattern; applying a mask over the photoresist layer, and performing a lithography process, to form a photoresist layer pattern; forming a contact hole photoresist pattern over the passivation layer by a third roller printing process; forming a pixel electrode photoresist pattern over the pixel electrode layer by a fourth roller printing process” as recited in amended claim 1.

Thus, Applicant respectfully asserts that Deane et al., in view of Chae et al., and further in view of Okazaki et al. do not teach or suggest each and every feature recited in independent claims 1 and 24, as amended. Accordingly, Applicant respectfully requests that the 35 U.S.C. § 103(a) rejection of independent claims 1 and 24, as amended, be withdrawn. Further, Applicant respectfully requests that the rejections of dependent claim 15 be withdrawn at least because of its dependence on independent claim 1, as well as for the additional features which it recites.

CONCLUSION

In view of the foregoing, reconsideration of the objections and rejections and allowance of claims 1, 15 and 24 are respectfully requested. Should the Examiner feel that there are any issues outstanding after consideration of the present response, the Examiner is invited to contact the Applicant’s undersigned representative to expedite prosecution of the present application.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Joseph A. Kolasch, Reg. No. 22,463, at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: February 1, 2010

Respectfully submitted,

By 

DAVID A. BILODEAU
USPTO #42,325

Esther H. Chong

Registration No.: 40,953

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant